

MOZZIE ELECTRIC FOG



OWNER'S MANUAL MODELS 200-250

55-73-0200

040505

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Specifications - Model 200

Dimensions	42" W x 21"D x 40" H		107cm W x 53cm D x 102 cm H	
Weight	Net:	Gross:	Net:	Gross:
Cemical Tank	4 Gallon Max Capacity HDPE			
Pump	12 VDC FMI Type RHB			
Pump Flow Rate	8.5 OPM Max, 1 - 6 OPM Recommended			
Voltage	12 Volts DC Nominal, 12.5 - 13.2 w/charge			
Full Load Amperage	80-85 Amperes			
Recommended Battery	Group 27 Deep Cycle Marine or Optima Yellow Top Gel Cell SC34DU			
Recommended Alternator	Minimum 135 Amp, Heavy Duty or High Output Recommended Note Vehicle Model, Year, Engine Type			

Specifications - Model 250

Dimensions	42" W x 21"D x 40" H		107cm W x 53cm D x 102 cm H	
Weight	Net: 170	Gross: 220	Net: 77.2 Kg	Gross: 99.9 Kg
Chemical Tank	6 Gallon Max Capacity HDPE, Fully Enclosed			
Pump	12 VDC FMI Type QB1			
Pump Flow Rate	1-19 OPM Max, 1 - 12 OPM Recommended			
Voltage Input	12 Volts DC Nominal, 12.5 - 13.2 w/charge			
Voltage Output	115 V a.c. Modified Sine			
Full Load Amperage DC	85-90 Amperes			
Full Load Amperage AC	10-11.5 Amps			
Recommended Battery	Optima Yellow Top Gel Cell SC34DU (Included)			
Recommended Alternator	Minimum 135 Amp, Heavy Duty continuous or High Output Recommended Note Vehicle Model, Year, Engine Type			

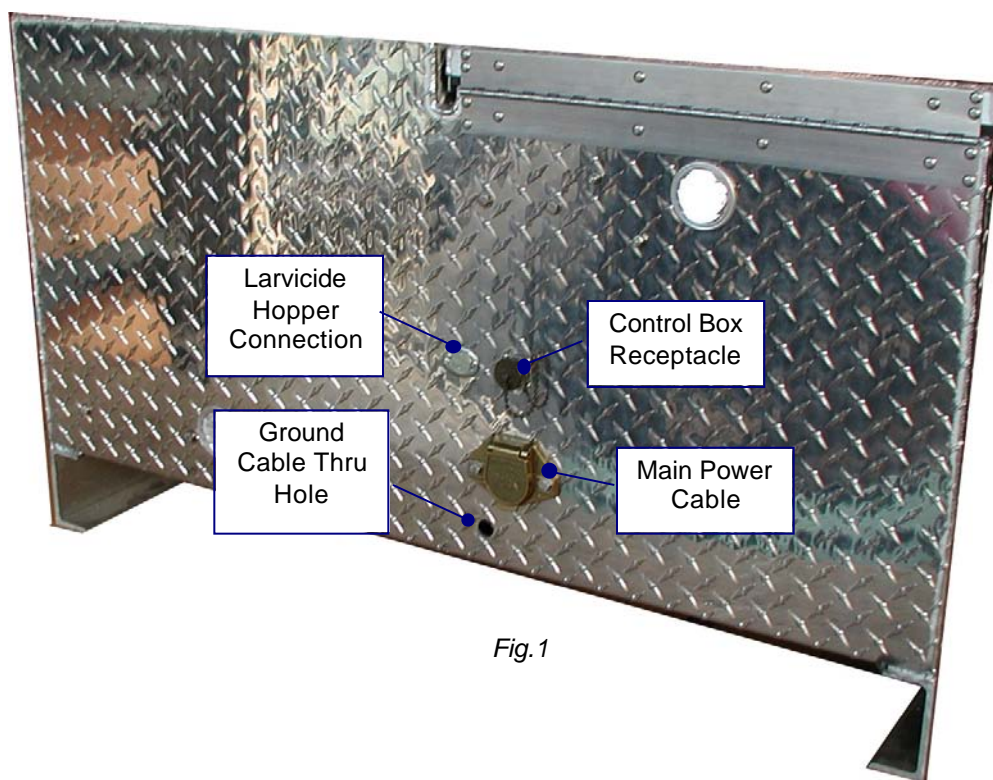


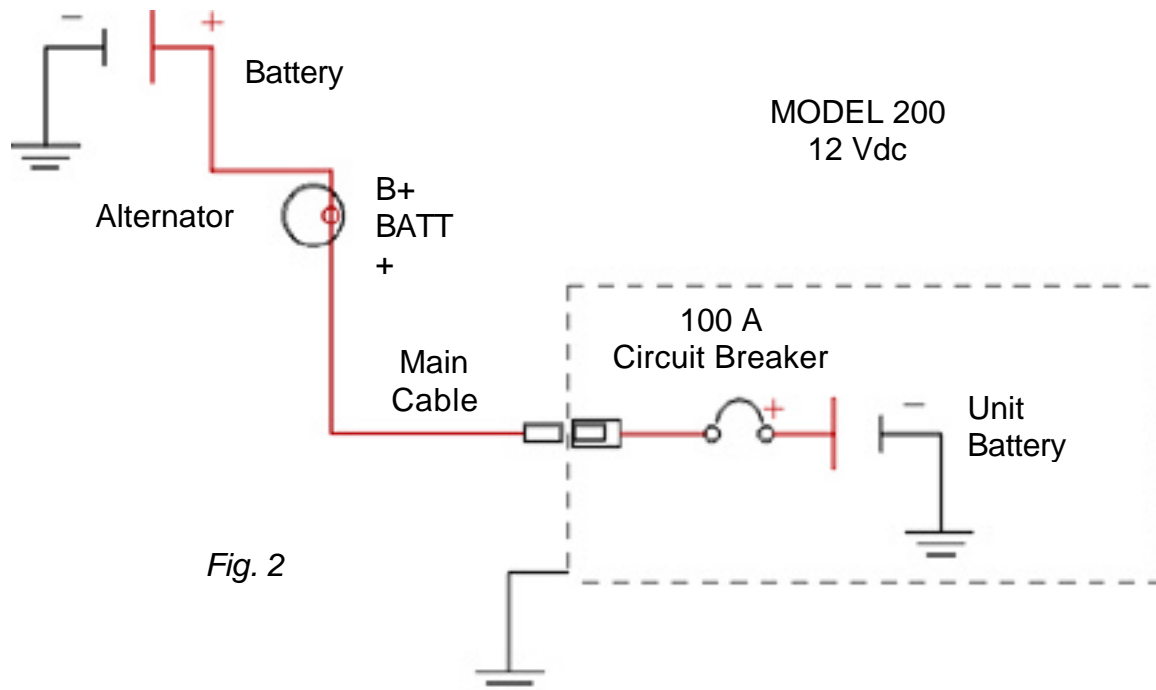
Fig. 1

Setup

Packed in the cabinet are the control box, nozzle(s) with quick couplings, a main power cable, ground cable, and high output alternator (if supplied) as required for the vehicle the unit will be mounted to. Have the alternator installed to the vehicle by a qualified mechanic. Position the unit to the truck bed and if desired, bolt the skids to the truck or secure by other means. Take care to check ground of the unit frame to the vehicle frame and if necessary provide ground by means of a bonding strap or 4 AWG battery cable with terminal lugs.

Install the main power cable by attaching the terminal end to the plus (+) BAT or B+ terminal of the alternator. Route the cable so that it is clear of any moving parts and secure along the vehicle frame. Connect the cable to the unit by firmly pushing into receptacle until the weather door latches the rear of the connector. Install the battery into the unit if not supplied and connect the battery cables provided. Red connects to positive terminal of the battery, black to the negative terminal of the battery. On Model 250 a separate short black ground cable is provided with a plastic bushing. Install cable by routing through hole in back of cabinet, and squeeze bushing to snap in place. Ground the black cable to a good vehicle frame ground. Install the remaining end to the negative terminal of the battery.

Connect the 4-pole plug (Model 200 only) from the control box firmly into the receptacle and push until the weather door latches. Install the nozzle(s) into the quick coupler(s) and connect the insecticide line(s).



IMPORTANT: BEFORE THE UNIT IS OPERATED FOR THE FIRST TIME THE BATTERY MUST BE FULLY CHARGED. PLACE THE BATTERY ON A MINIMUM 6-10 AMP CHARGER CAPABLE OF TRICKLE CHARGE MAINTENANCE AND CHARGE A MINIMUM OF 12 HOURS. DO NOT USE THE VEHICLE ALTERNATOR TO CHARGE A LOW BATTERY.

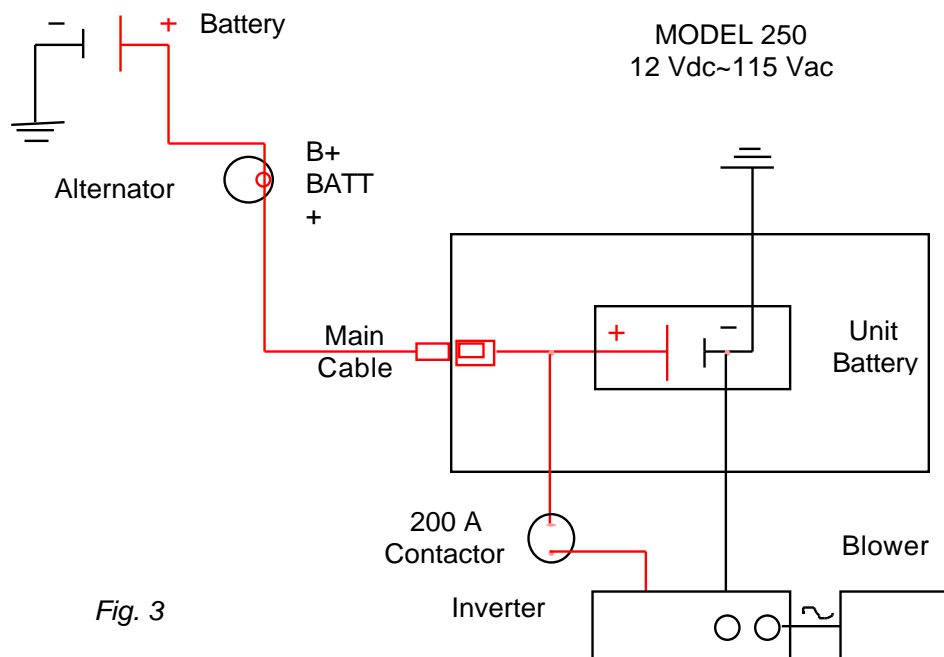


Fig. 3

Electrical Test - Model 200

With the unit completely connected, start the vehicle and run at idle. Turn the Unit switch on the control box to the "ON" position. With a DC multimeter check the voltage across the battery terminals of the unit. You should read 12.7 + volts on the meter. If available, check the current draw with a clamp-on ammeter capable of reading AC/DC true RMS such as a Wavetek AD105 Cat.III 1000 Amp. You should obtain a reading of 80-85 Amps.

Electrical Test - Model 250

The test of the Model 250 is slightly different from the 12 volt model. Once all the cables have been installed, connect the control box at the 7 pin cannon plug. Unplug the blower from the inverter. Turn the unit switch on the control box to the "ON" position. You should hear the contactor energize. Now turn the inverter on at the switch provide on the front panel. A green indicator light should come on and you will hear a slight whistle as the internal capacitors of the inverter charge.

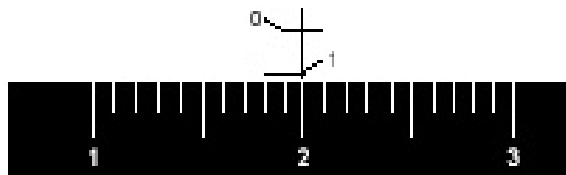
Use a small load electric drill or light to plug into the inverter. The drill or light should run normally. Turn the unit switch on the control box off. The green light on the inverter will slowly fade until completely off. Now reconnect the blower. With the unit completely connected, start the vehicle and run at idle. Turn the Unit switch on the control box to the "ON" position. With a DC multimeter check the voltage across the battery terminals of the unit. You should read 12.5-12.7 + volts on the meter. If available, check the current draw with a clamp-on ammeter capable of reading AC/DC true RMS such as a Wavetek AD105 Cat.III 1000 Amp. You should obtain a reading of 87-90 Amps.

Calibration - Model 200

The pump was calibrated at the factory to dispense 4 oz/minute of mineral oil. Due to voltage variations from vehicle to vehicle, a slight adjustment at the pump control may be needed to fine tune the chemical system for proper flow rate. To adjust the flow rate, be sure that the Mozzie Electric Fog is connected to the vehicle charging system. Fill the chemical tank about half full of the chemical to be used. Disconnect the chemical line at the nozzle and place in a suitable container or

Pump set at 1.2

Fig.4



INCREASE

DECREASE

route back to the tank. See p.8 to set the proper valve position. Turn the pump switch ON and allow the system to fill with fluid. Run the pump until all air is purged from the pump and valve. When all air has been removed, transfer the fluid line into a graduated cylinder and measure the fluid flow for two minutes. Set the approximate desired flow rate of the pump by referring to the table:

Pump Setting	Rate OPM
1.25	2
2.2	4
3.15	6
4	8.45

With the pump set, reconnect the insecticide line to the nozzle.

Calibration - Model 250

Model 250 is equipped with a pressure switch located at the top of the motor unit just behind the air outlet. The pressure switch controls the chemical pump by switching the pump on *only* if there is sufficient air pressure on the air manifold. The unit is shipped with the wire tab attached to

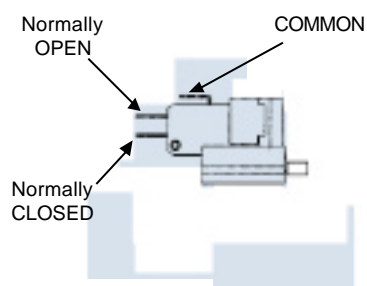


Fig.5

the Normally OPEN connection at the pressure switch.

Temporarily move the wire tab to the Normally CLOSED connection. This will allow you to calibrate the pump independently of other parts of the system. It is not necessary to operate the inverter or blower to calibrate the pump.

Now loosen the knurled knobs slightly on each side of the pointer of the pump so that the pointer can be adjusted. Turn the black knob counterclockwise to increase flow. Measure flow rate as above. When the desired flow rate is achieved, tighten knurled nuts and reconnect chemical line to

nozzles. **IMPORTANT** Reset pressure switch wire to the NORMALLY OPEN connection tab.



Fig.6

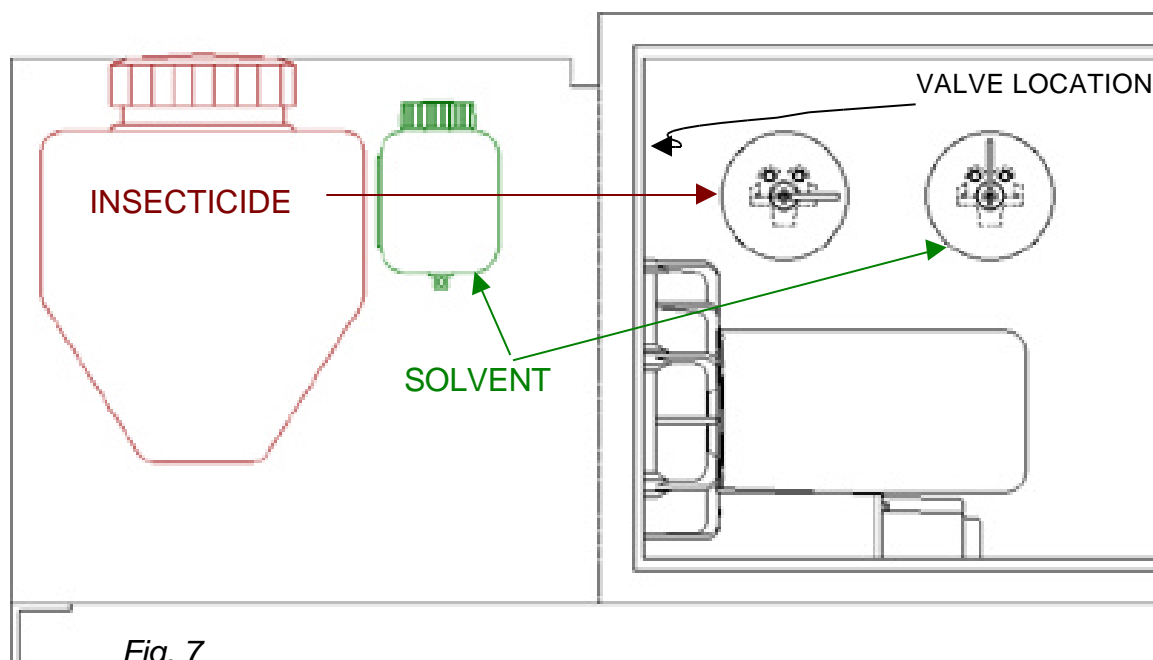


Fig. 7

Operation

Once the unit is calibrated, it is ready for operation. Service the chemical and solvent tanks. See *Fig.7* and note the valve positions for chemical and solvent. Set the valve to the proper position. Be sure that the "butterfly vent" on the motor side of the cabinet is open.

Start the vehicle, and turn on the Unit switch at the control box. Momentarily turn on the Pump switch and check the red indicator light at the control box. It should come on. If it does not, turn all switches off and visually check that the pressure switch wire is installed to the Normally "OPEN" position (see Fig. 5).

Droplet Median Diameter Measurement of the Mozzie Electric Fog

Determination of median droplet size on the Mozzie Fog can be affected by both the method of collection and the conditions under which the test is performed. These instructions are provided as a general guide to aid the user in obtaining the most accurate results. As a rule this test recommendation is applicable to both the Mozzie Electric and the Mozzie Gas Fogger and, in addition, is based upon familiarity with the KLD Labs DC-III TM and the label instructions of Aqua-Reslin [®].

Begin by positioning the equipment where any existing wind is downstream from the nozzle. If at all possible, locate the unit in a closed structure with one side open where the insecticide cloud

will exhaust outdoors. Mix the Aqua-Reslin in the ratio planned for treatment, and place in insecticide tank.

Operate the unit and, with a anemometer, find the point at which the nozzle velocity reads 3-3.5 meters/second (on the Mozzie Electric this is approximately 36"-42" from the nozzle). Although KLD Labs instructions state that velocity should be read at 5-7 meters/second for most testing, the point at which that reading occurs is within an area where the particles are still being sheared by the Mozzie nozzle due to the characteristics of the nozzle design. In consultation with KLD Labs it was recommended not to test lower than 3 meters/second. We have determined that the 3-3.5 range would satisfy the limits of the analyzer and return an accurate representation of the particle size spectrum.

Once all preparation has been made, run a 30 second or 60 second test with the DCIII set to analyze oil. Results obtained with Aqua-Reslin on the Model 200 should compare to the following table:

Aqua-Reslin Mix	Flow Rate oz/min	Pump Setting	MMD
Neat	1.68	1.10	22-23
1+1	2.10	1.25	24-25
1+2	3.10	1.60	26-27

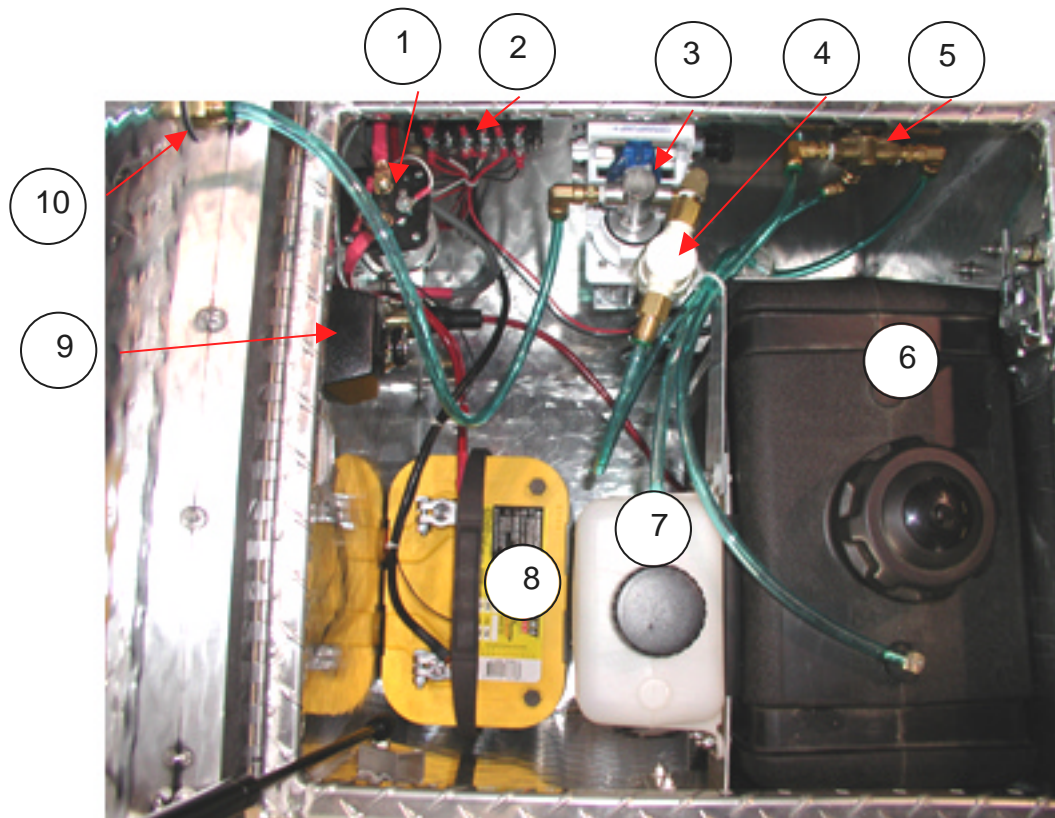
As a basis for comparison, plain water run at 3.1 opm and a velocity of 3.5 meters/sec yields a 42-44 mmd spectrum. It follows that the more dilute the mixture is, the higher the shift in droplet median diameter, therefore, we do not recommend dilutions higher than 2+1 of water to Aqua-Reslin.

Another important aspect of the results returned by the DC-III is the total droplet count. In our experience, a probe in good condition should indicate total droplet counts of 2500-3500 in a one minute run and roughly 1/2 of those totals in a 30 second run. Significantly lower counts than these might indicate a probe in poor condition or not in the correct position. In this instance, reverify the velocity at the point where the probe is placed within the fog. In addition, when taking readings move the probe slowly across the fog pattern, being careful to keep the probe perpendicular to the cloud.

Maintenance

Maintenance on the Mozzie Electric is routinely simple. Once a month check the cable terminations at the battery and clean if needed. Check all chemical tubing for wear and tear and replace if needed. Keep the chemical filter clean as needed. If the unit is to be stored for long periods, remove the battery and charge every thirty days or maintain battery level with a trickle charger. Remove the nozzle and install the outlet plug. All loose items may be stored in the cabinet where it can be kept under lock and key.

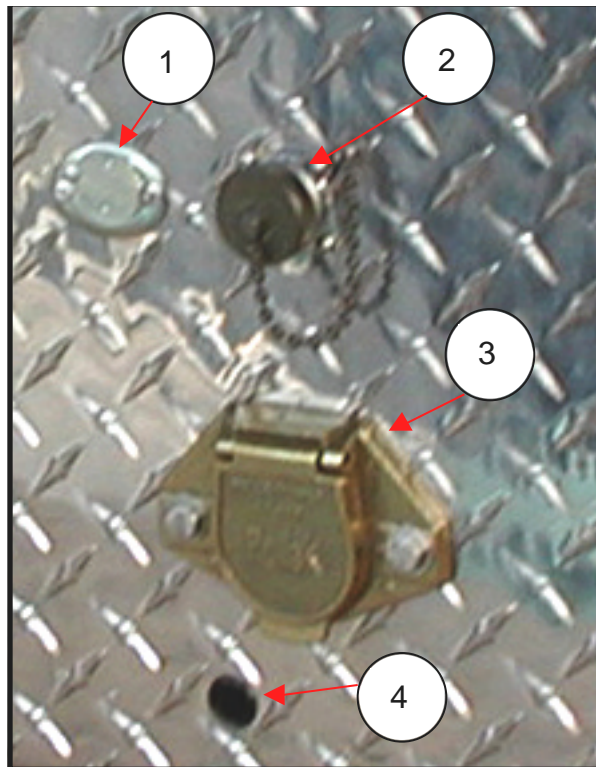
Parts



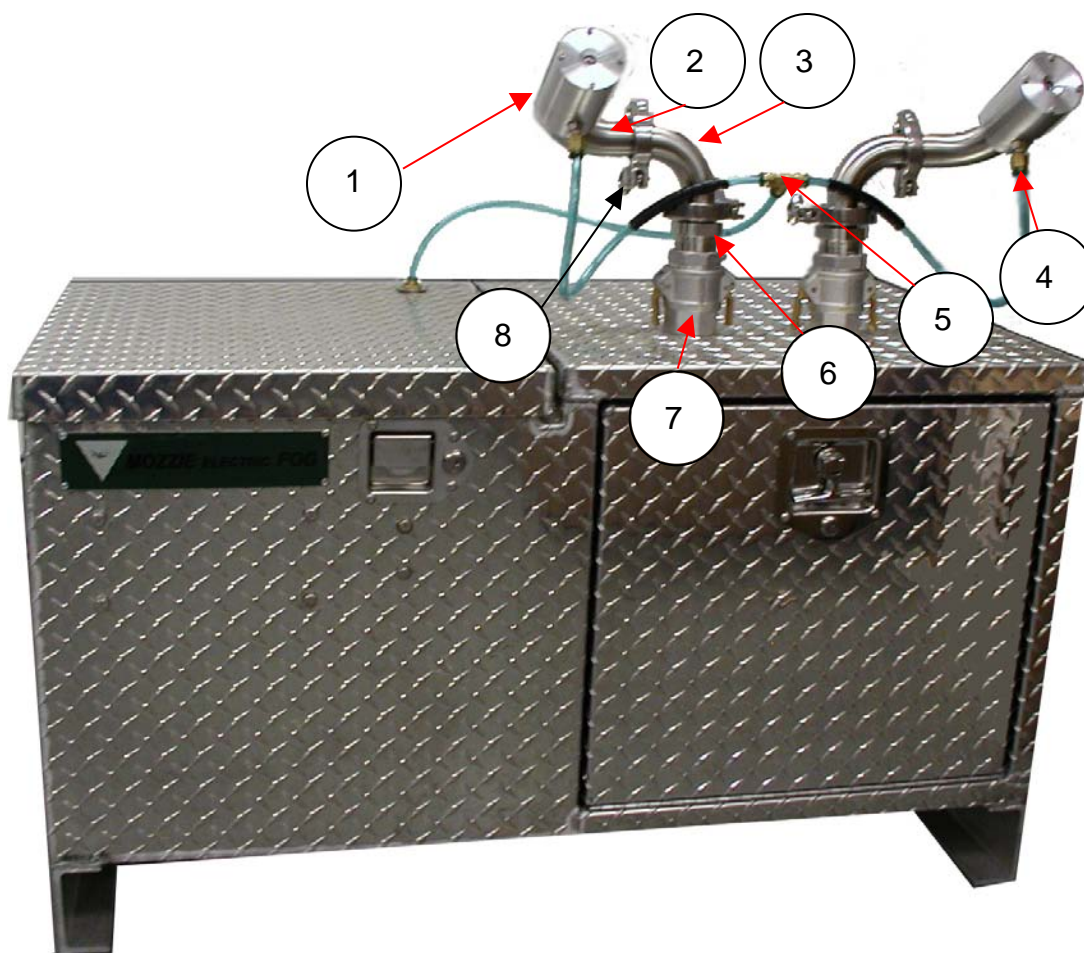
Key	Part No.	Description	Qty
1	55-70-0255	Contactor, 200 Amp	1
	1/4-20 X 3/4	H.H. Capscrew 18-8 SS	2
	1/4-20	Nylock Nut 18-8 SS	2
	1/4	SAE Washer 18-8 SS	4
2	55-70-0205	Terminal Block	1
	10-32 X 1	Socket Hd Capscrew 18-8 SS	2
	#10	SAE Washer 18-8 SS	2
	#10	Split Lockwasher 18-8 SS	2
3	55-70-0619	Chemical Pump, HO	1
	55-70-0132	1/4 NPT 90° Swivel	1
	55-70-0240	90° Filter Elbow	2
	55-70-0239	Filter Adapter	1
	1/4-20 X 3/4	H.H. Capscrew 18-8 SS	4
	1/4-20	Nylock Nut 18-8 SS	4
	1/4	SAE Washer 18-8 SS	8

4	55-70-0217	Filter, 80 Mesh	1
	55-70-0238	Filter Connector	1
5	55-70-0211	3-way Valve	1
	55-70-0132	1/4 NPT 90° Swivel	3
	1/4-20 X 7/8	H.H. Capscrew 18-8 SS	2
	1/4-20	Nylock Nut 18-8 SS	2
	1/4	SAE Washer 18-8 SS	2
6	55-70-0266	Chemical Tank, 6 Gal.	1
	55-70-0266-1	Cap, Chemical Tank	1
	<u>Earlier Models</u>		
	55-70-0232	4 Gal. Square Tank & Cap	1
	5/16-18 X 5/8	Hex Hd Capscrew 18-8 SS	4
	5/16	Split Lockwasher 18-8 SS	4
	5/16	SAE Washer	4
	55-70-0132	1/4 NPT 90° Swivel	1
	55-70-0236	Sealing Washer	2
	55-70-0219	1/4 Bulkhead	1
	55-70-0235	Straight Connector	1
7	55-70-0234	Solvent Tank	1
	55-70-0234-1	Solvent Tank Cap	1
	55-70-0233	Solvent Tank Bracket	1
	55-70-0270	Tank Strap	1
	55-70-0631	Edge Trim, 6"	2
	1/4-20 X 7/8	H.H. Capscrew 18-8 SS	4
	1/4-20	Nylock Nut 18-8 SS	2
	1/4	SAE Washer 18-8 SS	8
8	55-70-0261	Battery, Optima	1
	1/4-20 X 7/8	H.H. Capscrew 18-8 SS	2
	1/4-20	Nylock Nut 18-8 SS	2
	1/4-20	Hex Nut 18-8 SS	2
	1/4	Split Lockwasher	2
	1/4	SAE Washer 18-8 SS	2
	55-70-0237	Marine Battery Terminal	2
9	55-70-0204	Interior Light	1
	8-32 X 1-1/2	Flat Hd MS 18-8 SS	1
	8-32 X 2	Flat Hd MS 18-8 SS	1
	8-32	Nylock Nut 18-8 SS	2
	#8	Neoprene Bonded SS Washer	2

10	55-70-0214	Prestolok Bulkhead	1
	55-70-0236	Sealing Washer	2

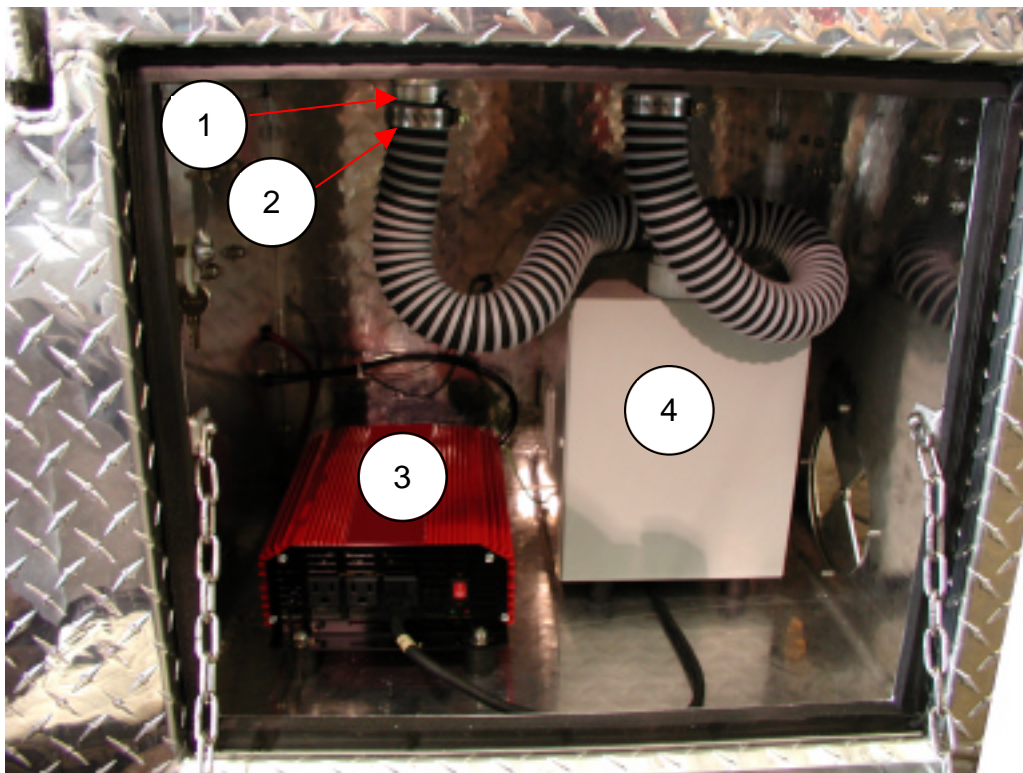


Key	Part No.	Description	Qty
1	55-70-0310	2-Pin Connector Set, Fanged	1
2	55-70-0613	Receptacle	1
	55-70-0613-1	Dust Cap w/Chain	1
	4-40 X 1/2	Pan Hd MS 18-8 SS	4
	4-40	Hex Nut 18-8 SS	4
	#4	Split Lockwasher 18-8 SS	4
	#6	Sae Washer 18-8 SS	1
3	55-70-0206	Single Pole Socket	1
	1/4-20 X 7/8	H.H. Capscrew 18-8 SS	2
	1/4-20	Nylock Nut 18-8 SS	2
	1/4	SAE Washer 18-8 SS	4
	55-70-0134	Red Battery Cable	16"
	55-70-0133	Battery Terminal	1
4	55-70-0268	Cord Bushing	1



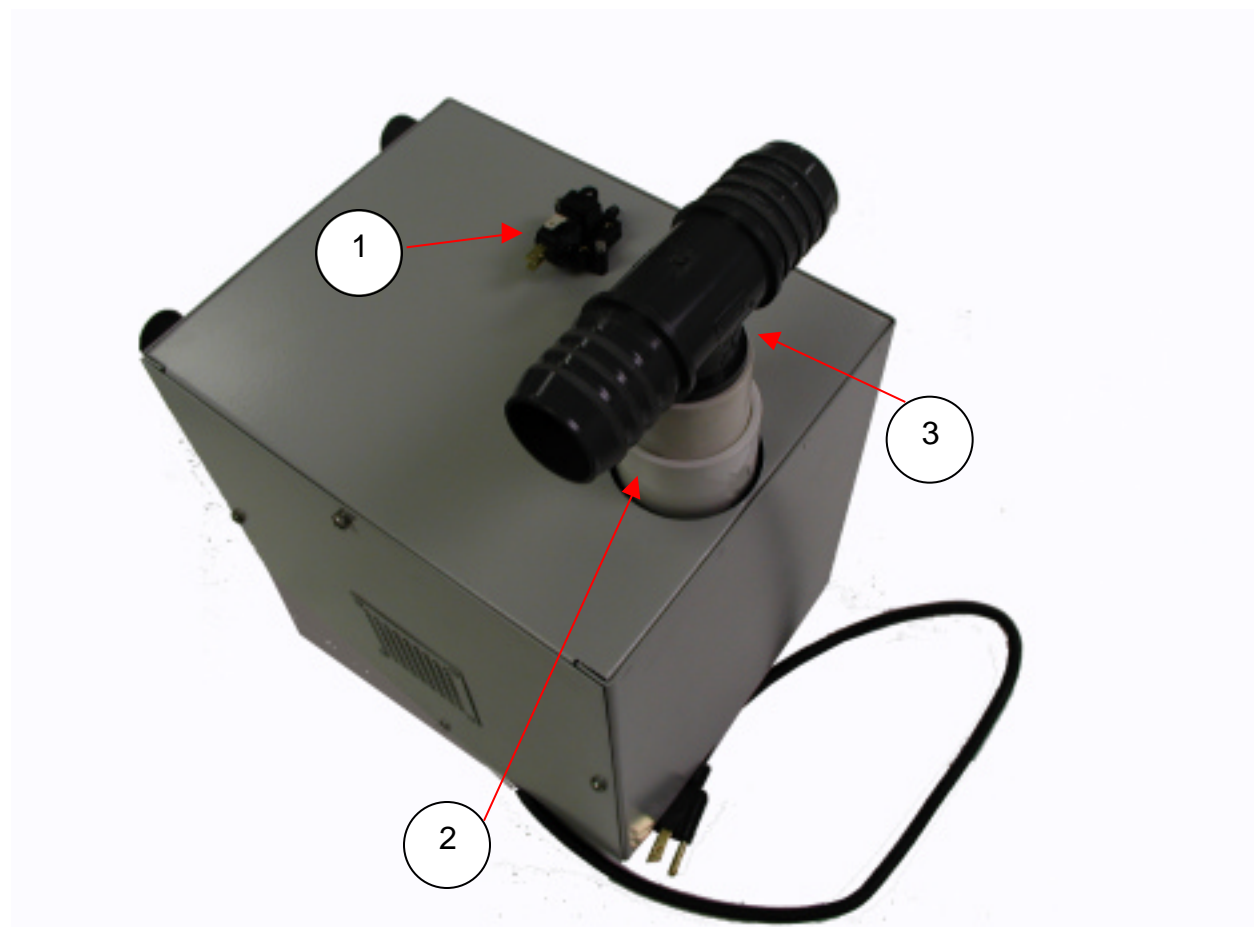
Key	Part No.	Description	Qty
1	55-70-0170	Vortex Plate	2
	55-70-0171	Ejector Body	2
	55-70-0172	Ejector Insert	2
	55-70-0173	Liquid Port	2
	55-70-0174	Housing	2
	55-70-0176	1/8 Barb X 10-32 Fitting	2
	6-32 X 1/2	Socket Hd Capscrew	16
	#6	Split Lockwasher	16
	4-40 X 3/4	Socket Hd Capscrew	4
	#4	Split Lockwasher	4
2	55-70-0175	Manifold Adapter (Includes 55-70-0177 90° El)	2
3	55-70-0179	90° El Clamp X Clamp	2

Key	Part No.	Description	Qty
4	55-70-0281	1/8 NPT X 1/4 Tube Prestolok	3
5	55-70-0282	Prestolok 1/4 Union Tee	1
6	55-70-0178	Adapter 1-1/2 MPT X Sanitary	2
7	55-70-0124	PT-150 Aluminum Plug	2
	55-70-0125	PT-150A Aluminum Adapter	2
	55-70-0126	Coupler	2
8	55-70-0180	Clamp, Single Pin	4
	55-70-0181	Viton Gasket	4



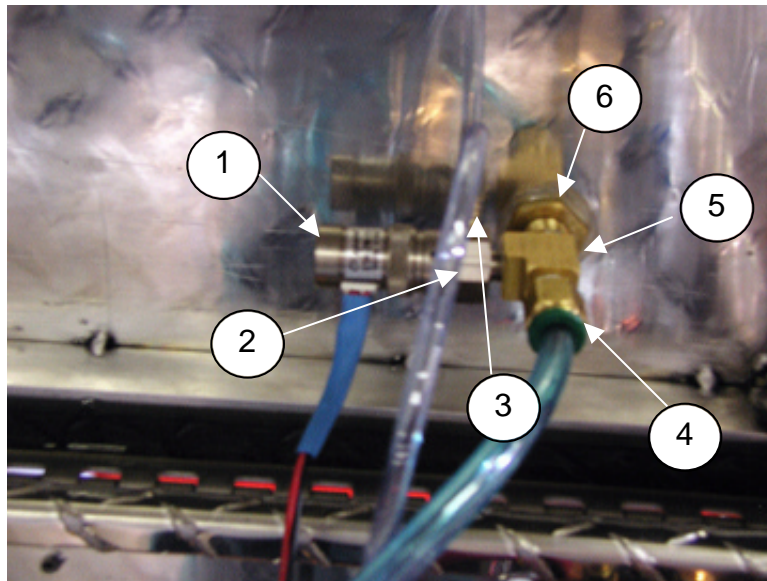
Key	Part No.	Description	Qty
1	55-70-0421	1-1/2" Hose Barb	2
2	55-70-0422	Clamp, Breeze #24	2
	55-70-0405	Hose 1-1/2" Reinforced	32"
3	55-70-0271	Inverter, 2000 Watt	1
	55-70-0272	Inverter Shock Mounts	4
	10-32 X 5/8	Socket Hd Capscrew 18-8 SS	4
	#10	SAE Washer	8

Key	Part No.	Description	Qty
3 (cont.)	10-32	Nylock Nut	4
4	55-70-0251	Blower Housing	1
	55-70-0256	Shock Mount	6
	1/4-20 X 5/8	Hex Hd Capscrew 18-8 SS	6
	1/4	SAE Washer	12
	1/4	Split Lockwasher	6
	1/4-20	Nylock Nut	4

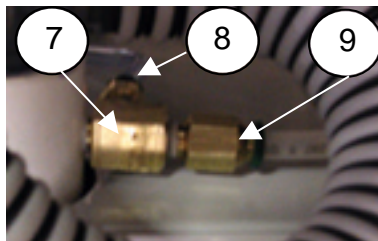


Key	Part No.	Description	Qty
1	55-70-0629	Pressure Switch	1
	4-40 X 3/4	Socket Hd Capscrew 18-8 SS	2
	#4	Split Lockwasher 18-8 SS	2
2	55-70-0252	Blower Air Coupling (includes 55-70-0263 PVC Tee)	1

Key	Part No.	Description	Qty
NA	55-74-0250	Control Box Assy (Not shown)	1



Key	Part No.	Description	Qty
1	55-70-0273	Purge Valve	1
2	55-70-0274	Valve Manifold	1
3	55-70-0176	1/8 Barb X 10-32 Fitting	1
4	55-70-0264	Prestolok 3/8 Tube X 1/8 NPT	1
5	55-70-0275	1/8 FXFXM Street Tee	1
6	55-70-0280	1/8 Short Bulkhead	1
	55-70-0277	Sealing Washer 5/8" (Lid Top)	1
7	55-70-0275	1/8 FXFXM Street Tee	1
8	55-70-0281	1/8 NPT X 1/4 Tube Prestolok	1
9	55-70-0257	5/16 Tube X 1/8 NPT Prestolok	1



How to Order Parts

Parts are available from Arro-Gun Spray Systems by contacting the toll free factory number:

Arro-Gun Spray Systems, LLC
7575 Tamra Drive
Reno, Nevada 89506
Phone: 775-972-4782 (Cell 775-843-2647)
(Factory Toll Free) 1-888-277-6486

Please have available the serial number of the unit requiring replacement parts.

